

**Technical Support for Procurement and Project  
Management and Private Sector Participation to the  
Ministry of Water and Irrigation, Water Authority of  
Jordan and the Jordan Valley Authority**

Support for Economic Growth and Institutional Reform:  
General Business, Trade & Investment IQC

**Proposed Organization and Staffing of the Aqaba Water  
Company: Strategies and Plans**

Contract No. PCE-I-00-98-00015-00  
Task Order 814

Submitted by  
Chemonics International Inc.  
March 21, 2003

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## EXECUTIVE SUMMARY

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The transformation of the WAJ Aqaba water and wastewater utility to a utility company operating on commercial principles entails, among other legal and institutional changes, a restructuring of the workforce and the adoption of market-based personnel management practices. The personnel related organizational transition requirements include:

- Development of an organization and staffing plan
- Rightsizing, recruitment, and training
- Adoption of appropriate personnel policies and procedures.

This report sets out an action plan for the human resources component of the WAJ Aqaba-AWC organizational transition and initiates the transition process by presenting an organization and staffing plan.

The current WAJ Aqaba organization is divided into five major units dealing with rural area services, city water service, city wastewater service, customer service (city customers), and finance/administration which is both sensible and appropriate for WAJ Aqaba's current functions. Field investigations reveal however, that the formal structure does not reflect the actual distribution of functions and responsibilities. Certain functions, particularly in the area of finance and administration, are not fully developed, reflecting the centralization of these responsibilities at WAJ headquarters. In addition, some developments expected in the near term, most notably the construction of new wastewater treatment and reuse facilities and the decentralization of capital works planning and implementation responsibilities, call for a review of staffing requirements.

The proposed organization structure addresses these problems while building upon the strength of the current structure to create an organization that will meet the needs of the AWC. The wastewater division is expanded, the finance/administration division is reorganized and strengthened, and new departments for facility evaluation/planning and water quality control are established. The proposed structure features seven main organizational units, in addition to the CEO's office, with the staffing levels shown in the adjacent box.

<b>Summary of AWC Proposed Staffing by Organizational Unit</b>	
CEO's Office	4
Projects Center	9
Water Quality Center	7
Rural Division	23
City Water Division	49
Wastewater Division	82
Customer Service Division	22
Fin/Admin Division	25
<b>TOTAL</b>	<b>221</b>

The report develops a position classification scheme comprised of ten job groups and presents a preliminary comparison of existing vs. required numbers in each group, summarized in the inset box, in which a negative number in the "Balances" columns indicates a shortage and a positive number indicates excess staffing.

The critical shortages are in the Manager, Specialist, Operators, Craftsman, Admin Officer and Technician groups; the large shortfall in the Operator group mostly reflects the requirements of the new wastewater treatment plant. Strategies of reduction of personnel will be prepared in more detail at a later date, however these should minimize the impact of potential layoffs. Reductions would be spread over a number of years and can be attributed to normal attrition, early retirement, retraining programs for available employment opportunities in Aqaba, or promotion of small business units for workers. The surpluses are in the Clerical, Semi-Skilled, and Laborer groups.

Summary of Staff Balances			
Job Group	Planned	Actual	Balances
Managers	6	3	-3
Specialists	10	2	-8
Supervision	8	4	-4
Craftsman Officers	12	8	-4
Craftsmen	32	30	-2
Operators	30	15	-15
Technicians	12	5	-7
Clerical	16	33	17
Semi-Skilled	24	133	38
Laborers	71	133	38
Undefined	N/a	26	n/a
TOTALS	221	259	

It is possible that the best of the Semi-Skilled personnel can be trained for the lower-level (Operator II) positions, e.g., pump station operators, and that a few Admin Officer positions can be filled by re-trained clericals, but there remain significant surpluses in these three groups.

Although staffing requirements for the wastewater treatment and reuse facility have been estimated in the report, it is recommended that AWC directors consider private sector contracting options as well.

The final section of the report sets out the human resources action plan. Following WAJ review of the organization and staffing plan, WAJ would establish a working group composed of WAJ HQ personnel and operations management specialists and key WAJ Aqaba managers to set a salary structure for the positions, appraise the suitability of current WAJ Aqaba employees for AWC positions, and recruit needed personnel. TAPS could provide detailed job descriptions for all 71 job titles, training in job grading and evaluation, and training in performance appraisal, training needs analysis, and job interviewing, and if desired, provide facilitation and technical assistance to the working group in implementing these tasks. Personnel policies and a personnel management system also need to be developed; TAPS could provide various types of technical assistance in these tasks depending on WAJ/AWC requirements.



## SECTION I

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### INTRODUCTION

Transfer of the operational responsibilities of WAJ Aqaba to the new Aqaba Water Company (AWC) is expected in January 2004. A schedule of key legal and institutional benchmarks for Company formation is set out in Section IX of the Aqaba Water Company Pre-feasibility Report (PFR)<sup>1</sup> prepared by TAPS. In addition to these benchmarks, a list of capacity building requirements is presented in PFR Section 7.4 covering:

1. Development of O&M systems and procedures
2. Development of customer service systems and procedures
3. Design and installation of financial management system
4. Design and installation of human resource management system
5. Development of a five-year AWC business plan.

The objective of this report is to initiate the design of the AWC human resource management system (point no. 4 above), beginning with organizational and staff planning. Section II reviews and updates the findings of the PFR regarding the structure and functioning of the Board of Directors. Section III represents the heart of the report and sets out an organizational design responsive to AWC's priority near-term objectives of financial and administrative decentralization, water loss reduction, effective maintenance, and management of a greatly expanded wastewater system. This section also includes a list of the functions of each of the proposed units within AWC's organizations structure. Section IV analyzes AWC staffing requirements and compares the required staffing pattern with the current pattern. Section V presents an action plan for implementation of the organization and staffing plan and associated personnel systems.

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<sup>1</sup> Chemonics International, Aqaba Water Company Prefeasibility Report, Technical Support for Procurement and Project Management and Private Sector Participation to the Ministry of Water and Irrigation, Water Authority of Jordan and the Jordan Valley Authority, January, 2003

## SECTION II

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### BEST PRACTICES IN UTILITY ORGANIZATION AND MANAGEMENT

WAJ Aqaba management structures were evaluated in the aforementioned TAPS Aqaba Water Company Prefeasibility Report<sup>2</sup> (PFR). The principal management-structural flaw is caused by the centralization of the WAJ organization, in which WAJ Aqaba is merely a field office that operates and maintains the water and wastewater systems and performs billing and collection duties. WAJ Aqaba retains no revenues, and all but a tiny fraction of WAJ Aqaba expenditure is controlled at WAJ HQ. WAJ Aqaba is also dependent on WAJ HQ for technical services relating to capital investments and major repairs.

Despite the operational difficulties and lack of incentive posed by centralized management, WAJ Aqaba performs well by many relevant performance indicators such as collection efficiency, UFW reduction, and unit costs. The solid performance can be attributed to three factors:

- a) The diligence and competence of the WAJ Aqaba top management (the Assistance Secretary General and his four line managers)
- b) Procurement, training, and technical assistance in network maintenance management and computerized billing provided through the GTZ OMS Project until March 2001.
- c) A favorable market situation of low cost water supply and wastewater treatment costs plus a large proportion of high-volume users paying non-domestic tariff rates.

The engineering and financial analyses in the PFR showed that the utility's years of low O&M cost are largely behind it. In water supply, MWI/WAJ plans to charge JD 0.25/m<sup>3</sup> of water pumped from the utility's main water source in the Disi wellfields. In wastewater, a complex water reclamation facility designed to provide both secondary and tertiary treatment is planned for operation by late 2004 or early 2005.

The utility therefore faces sharp labor, electricity, and bulk water cost increases. The PFR concluded that the operational and financial challenges of the near term call for decentralized management following best commercial practices, and recommended establishment of a limited liability company under the ownership of WAJ.

Best practices in corporate governance were also reviewed in the PFR (Section 7.3). These include:

- Separation of ownership and management functions
- Separation of ownership and regulatory functions
- Company exposure to market forces
- Clearly established company property rights.

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<sup>2</sup> Ibid, Section 7



The composition of the board of directors was noted as critical to proper governance. The PFR recommended a board membership that includes representatives of MWI, WAJ, ASEZA and AWC (Chief Executive Officer).

Experience in other GOJ public utility corporatizations indicates that the AWC Board will likely have a total membership in the range of 7 to 9 individuals. TAPS has recommended that three members be private sector persons who are experts in utility engineering, finance, and management matters.

The proposed implementation plan in the PFR posits that the Board will be appointed by June 2003.

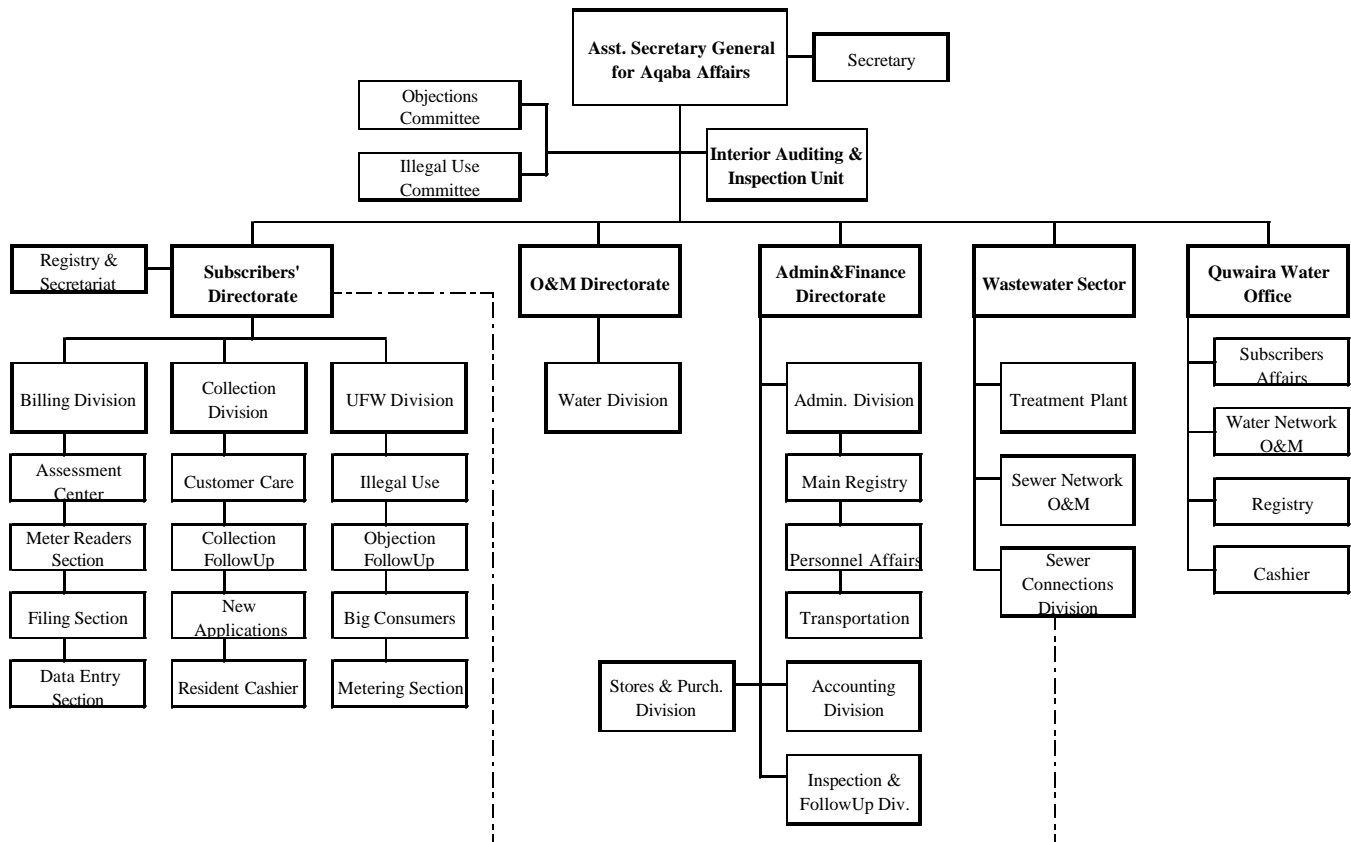
## SECTION III

### ORGANIZATION DESIGN STRATEGIES FOR THE AWC

The principal weaknesses of the current WAJ Aqaba organization are: a) imbalances in workload and b) shortages of qualified staff. These factors are related: imbalances in workload are the result of *ad hoc* assignments of responsibilities to persons with relevant skills regardless of whether the responsibility matches the formal position. Beyond this phenomenon, staffing shortages are a problem in their own right, and the WAJ Aqaba Administrator has observed that several of the “sections” shown in the organization chart are inappropriately staffed or in some cases not staffed at all.

The current WAJ Aqaba organization chart is shown in Figure 3.1. TAPS advisors believe that the basic structure, i.e., the four directorates plus the Quweira (rural) office, is sensible, and the structure recommended for the initial AWC organization (2004 to 2006) builds upon it. Our principal organizational recommendations respond to current weaknesses and near-term challenges posed by requirements for management and operation of new systems and programs.

Figure 3.1 WAJ Aqaba Organization Chart



### 3.1 Immediate Needs, 2004-2006

#### 1) *“Elevate” the UFW reduction program*

UFW reduction is presently achieved through the OMS-installed Maintenance Management System (MMS), which allows telephone complaints to be mapped and given a preliminary evaluation. These are primarily leakage-related. The GIS is basic to MMS operation, but since the head of the Subscriber’s Directorate is the only WAJ Aqaba official with the computer system knowledge to manage the MMS, the GIS effectively falls under him. The UFW Division has few functions and few employees. In the recommended organization structure, the GIS is upgraded to a basic component in a “Projects Center” which will be responsible, among other things, for directing and monitoring the systematic leak detection program recommended in PFR Section 3 to complement the reactive MMS program.

#### 2) *Upgrade and expand the Finance and Administration Directorate*

The PFR noted that WAJ Aqaba has no accounting, purchasing, or human resource management responsibilities, though it has administrative responsibilities for storekeeping and fleet management. AWC will be financially and administratively autonomous, in addition to being responsible for all specialized technical services. In the recommended organization for AWC, the Finance and Administration Directorate is upgraded, with additional required authority, responsibilities and qualified staff in key areas. The new Division would be established, with three departments, namely Accounting/Management Information Systems, Administration and Human Resources.

The TAPS team preliminary assessment, supported by the WAJ Aqaba Administrator, is that the knowledge and skills to manage the Administration Department exist in WAJ Aqaba, except for the purchasing/contracting function. Staffing for this function, as well as for the accounting/MIS and human resource departments, will need to be recruited from sources outside WAJ Aqaba.

#### 3) *Recruit an Information System Specialist*

As noted in PFR Section 7.2, OMS provided WAJ Aqaba with a GIS, an MMS (for the networks only), and a computerized billing system. Due to the lack of a qualified system administrator, management of these systems has been assigned to the Head of the Subscriber’s Directorate as supplemental responsibilities. Although the work has been handled well to date, the workload created is considered excessive and the placement of the functions within the organization structure is less than optimum. It is important therefore, that the Information System Specialist (ISS) be appointed at an early date to take over these functions. It is also important that the position be established with high visibility in the organization at the senior staff level reporting directly to the Chief Executive Officer. Additional responsibilities of the ISS include managing financial management systems that are being upgraded under a WAJ-wide initiative to install “Oracle Financials”. The Oracle system is complex, and needs will arise for integration of all the utility’s systems as well as “troubleshooting” any features of the system or software which do not fully reflect AWC’s financial, billing, purchasing, or personnel policies. The ISS will also be responsible for integration and troubleshooting of the SCADA-based system of Disi flow monitoring and control to be provided by USAID. In addition to system troubleshooting,

integration, and training, the Specialist will be responsible for data security and planning and supervising maintenance of computer hardware.

### **3.2 Near-Term Needs, 2007 Onward**

If year 2004 is AWC's year for intensifying UFW reduction efforts and for establishing a financial and administrative management capacity, Year 2005 is AWC's year to begin preparing to face the challenge of managing an environmentally important and nationally unique *water reclamation* system. The current wastewater stabilization pond, which is virtually O&M-free but only capable of handling some 25% of the current demand for wastewater disposal, will become only one component in a wastewater treatment and reuse system which includes mechanical and biological treatment at one end, and treated effluent pumping and distribution at the other. Effective reuse is a key element of Jordan's water management strategy, so the Aqaba water reclamation facility will attract great policy and regulatory interest. Moreover, reuse sales can be an important source of revenue against increased wastewater pumping and treatment costs. Maintaining regular and reliable flow rates throughout the city's water and wastewater systems is an important condition for the financial and environmental success of the facility.

Three organizational improvements, that should be in place by 2007, are needed to sustain this major expansion in responsibility:

#### *1) Strengthen the O&M of the wastewater pump stations*

Problems in the operation of the pump stations were noted in PFR Section 4.1. A maintenance management system and program for the pumps is recommended. Needs for structural renewal and replacement (R&R) should be combined with hydraulic analyses conducted with the aid of the GIS to develop a medium-term R&R program with the aim of stabilizing flow rates and minimizing back-ups. Sewer maintenance/repair needs will increase as the collection system expands in response to the new treatment capacity. In order to address these issues, the recommended organization structure includes the creation of the Sewage Pumping Department in the Wastewater Division with an operating staff of 16.

#### *2) Establish a Water Reclamation Department*

The importance and dimensions of this function have been reviewed above. USAID typically provides financing for one or two years of operation of new facilities, but it is important that AWC provide complementary personnel. Moreover, it is much to AWC's advantage to make managerial, supervisory, specialist, and technical personnel available to benefit from on-job experience; in fact, it is recommended that AWC staff be on site during the later stages of construction to see how the plant is constructed. For these reasons, the recommended initial organization structure includes the water reclamation function as a fully staffed department of the Wastewater Division. By the end of 2006, the function would be elevated to division level status under the direction of the newly established Chief Operating Officer position. In the long run, the novelty, visibility, and financial importance of the water reclamation facility make it a prime candidate for contract operation through management contract or lease, if needed.

### *3) Strengthen the water quality control function*

At present, WAJ Aqaba performs basic chemical and bacteriological tests on drinking water and pond effluent. When the water reclamation facility starts operation, the utility will need to monitor a wastewater treatment process involving several stages. In addition, expansion of the collection system will result in increased demand for sewer connections by industries on the South Coast; the utility will need to be able to monitor the discharges of these users to assure that these wastes do not damage the sewers or affect the biological treatment processes at the wastewater plant. For these reasons, the organization design includes a recommendation for the establishment of a special Water Quality Center. The Center can be established in the initial organization and then expanded as its responsibilities increase to become fully operational by 2007.

### **3.3 Organization Structure**

The recommended organization structure is shown on Figure 3.2<sup>3</sup>. Units reporting to the CEO include five division managers, two heads of “centers” and two assistants. The divisions range in size from 22 to 82 persons, with the Wastewater Division the largest by far. Each division has two or three departments. The Water Reclamation Department, responsible for wastewater treatment, reuse, and disposal, has a staff of 55.

The Projects Center has a staff of 9, and the Water Quality Center a staff of 7. These are departments level units with technical, environmental, and economic planning and evaluation responsibilities, which maintain the operational performance monitoring system of the utility. The two assistant positions provide management support services to the CEO and support some operations programming needs of the divisions. The functions and staffing of the divisions and the two centers are shown in Table 3.1.

The divisions reflect the principal cost centers of the utility, although the financial management system will have to capture and allocate the costs of certain internal services, mainly:

- The planning and evaluation services provided by the centers and assistants to operating divisions
- Maintenance services provided by the City Water Division to the Rural Division.

The Rural Division is a miniature utility in its own right, with O&M and billing and collection responsibilities, albeit with reliance on the Aqaba office for more specialized maintenance and billing services. The staffing levels assume that there are two wells and one desalination plant to be managed and that operators will work in three shifts per day at all source works and treatment facilities, with most maintenance tasks performed during the main shift.

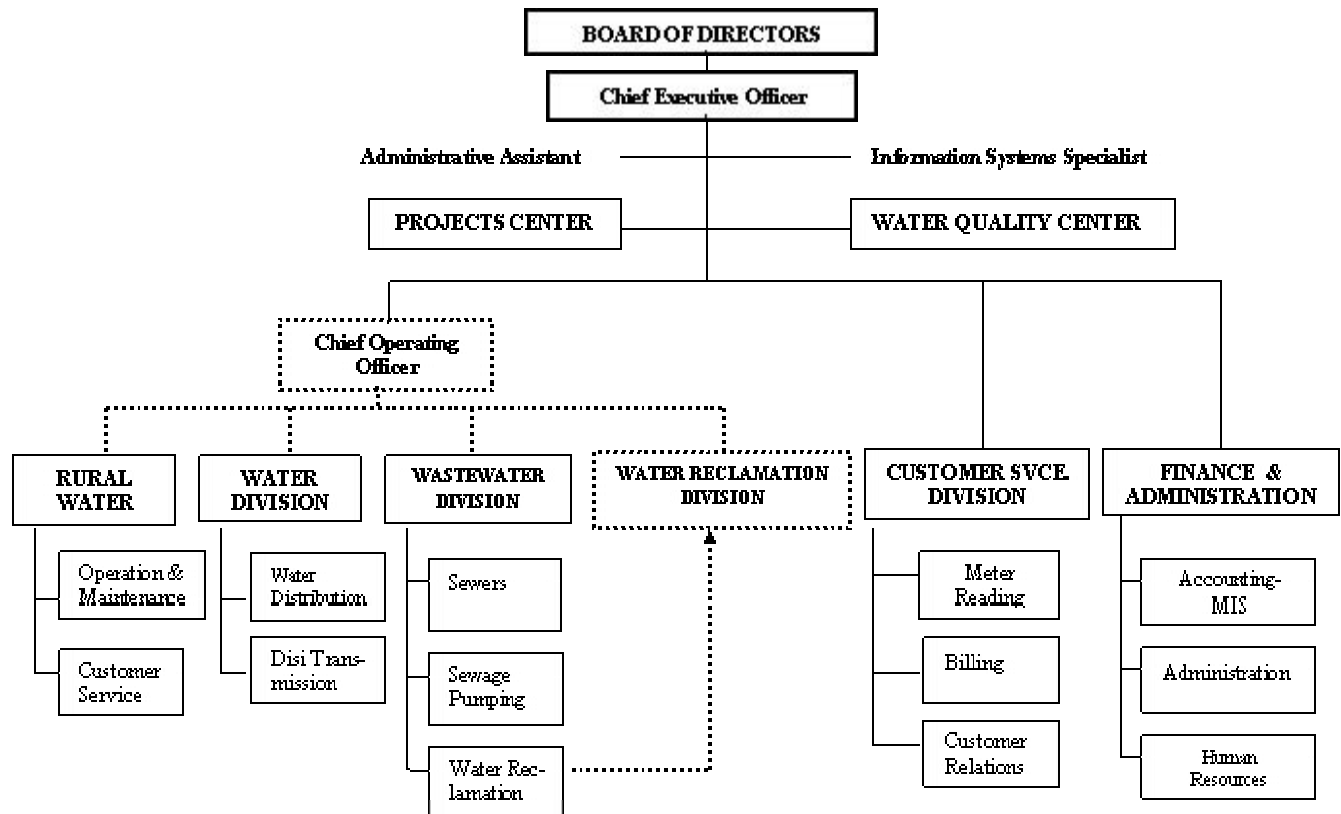
Another assumption used in formulating staffing arrangements is that the current three-month billing practice will be maintained. TAPS also assumes that with an improved utility financial

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<sup>3</sup> In the organization terminology used in this report, the English term “Division” is equivalent in level of hierarchy to the Arabic term “*mudiriya*”; similarly, the English “department” is equivalent to the Arabic “*qism*”.

management system, more Aqaba customers will choose the flexibility and ease of making their utility payments at a bank. The current use of meter readers as bill distributors and collectors is also continued.

**Figure 3.2 Aqaba Water Company Organization**



**Note:** Organization units and relationships shown in dotted lines indicate the organization as it is expected to be structured by the year 2007.

The Assistant Secretary General for Human Resource Affairs at WAJ has suggested a refinement to the structure, in which the water, rural water and wastewater divisions are brought under a Chief Operating Officer. In the initial structure, the three operating divisions report to the CEO. This arrangement would become effective in 2007.

For the near term, there is not much of an AWC capital program and there is a need for the CEO to plan and direct the development of service improvement programs by the managers which link budgets to performance targets. For now, TAPS recommends that a “hands-on” CEO be appointed who will work with the line managers to set goals, plans, and budgets. However, by the end of 2006, the reorganization process should be largely completed, the USAID capital program will be completed, and it will be appropriate for the CEO to delegate operations management and focus more on investment/financial planning.

Regarding Chief Operating Officer selection (in 2006 or 2007), we suggest appointment of the current WAJ Aqaba Administrator who is being recommended for appointment to the position of City Water Division Manager in the initial AWC organization structure.

The incumbent administrator has nearly eight years’ experience running WAJ Aqaba, is intimately familiar with most operation areas and has the respect of the current WAJ Aqaba staff.

<b>Table 3.1 – Aqaba Water Company Units/Functions</b>	<b>Total Staff</b>
<b>Projects Center</b> Monitors distribution and collection system flows Evaluates hydraulic and structural conditions of networks Prepares TORs for design and construction services. Oversees engineering design and construction services	9
<b>Water Quality Center</b> Monitors quality of significant inflows and outflows Evaluates the effectiveness of treatment processes Plans sale or disposal of treatment residuals	7
<b>Rural Water Division</b> Operates rural water stations (pump stations & desalination units) Maintains rural distribution systems Accounts for, bills, and collects rural water sales Inspects new water connections	23
<b>City Water Division</b> Controls and maintains the main Disi-Aqaba transmission system Maintains the city water distribution system Maintains local rural water stations Inspects new connections	49
<b>Wastewater Division</b> Drains and transports wastewater Inspects new sewer connections Treats collected wastewater Distributes or disposes of treated effluent	82
<b>Customer Service Division</b> Accounts for water and sewer service sales Issues bills and collects payments Receives applications for new connections Serves as principal point of contact with utility customers	22
<b>Finance and Administration</b> Coordinates budget processes and implements budget controls Maintains financial and cost accounts Manages purchases and issues payments, including payroll Maintains stores, rolling stock, and buildings Coordinates planning and implementation of HRD programs	25

The PFR estimates a total of 23,479 AWC water connections in 2006. With 221 staff, the number of employees per thousand water connections will be 9.4, an improvement on the 13.9 ratio observed in July 2002, but still higher than industry norms. The relatively high staffing ratio can be attributed to two factors: first, the need to provide service to the small and remote rural areas, and second, however small the number of specialist and administrative personnel, the customer base is also small: small utilities cannot easily achieve economies of scale.

### 3.4 Functional Descriptions

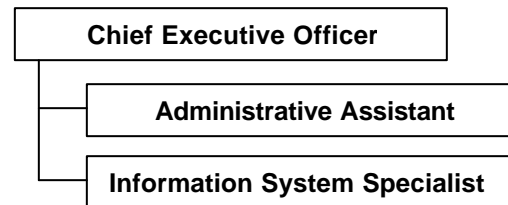
The following paragraphs present functional descriptions for all proposed AWC organizational units. As proposed in the *Illustrative Business Plan*, all activities carried out by the executives

would be guided by the AWC Business Plan approved by the Board of Directors. Detailed staffing tables are provided in Section IV.

### 3.4.1 Chief Executive's Office

#### Chief Executive Officer

- Ensure that the Company achieves its fundamental objective of providing safe and continuous potable water supply and wastewater disposal services throughout its service area, as efficiently as possible;
- Oversee the planning, management, monitoring and control of the Company, ensuring that it conforms with the guidelines laid down by the Board and external regulatory bodies, and maintaining effective technical and financial control;
- Maintain effective contact between the Company and government administrations at central and local levels to ensure coordination with the objectives, plans and policies of the Company's service area as a whole; and
- Report to the Board and other authorities concerned with the performance and progress of the company



#### Administrative Assistant

- Arrange the schedule of Board meetings, and coordinate the preparation of Board papers by other Directors
- Under supervision of the Chief Executive Officer, prepare the agenda and minutes of Board meeting
- At the request of the Chief Executive Officer, follow up action plans.
- Coordinate the production and distribution of the Annual Report.
- Maintain the Chief Executive Officer's agenda and arranges for the CEO's logistical needs
- Organize the manual and electronic filing and communications systems of the CEO and Board.

#### Information Systems Specialist

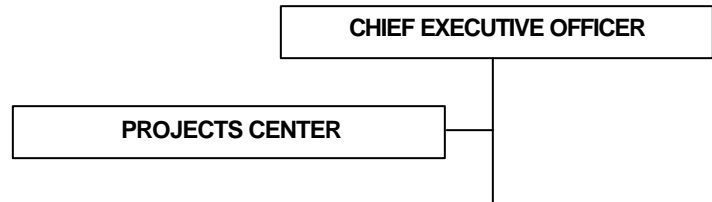
- Ensure integration and maintenance of the Company's computer hardware
- Prepare specifications for computer hardware purchases



- Provide troubleshooting and training on Company computer systems and operation
- Ensure safety and security of Company electronic data.

### 3.4.2 Projects Center

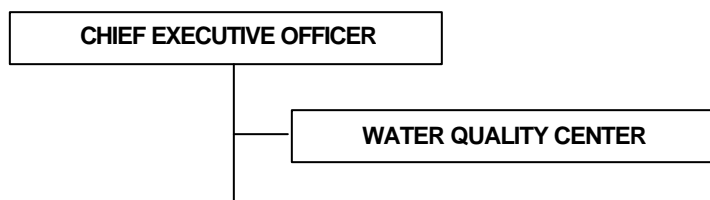
- Assist the Water and Wastewater Divisions in the assessment of needs for capital improvements, extension and rehabilitation works and in the preparation of Terms of Reference for engineering design and construction management services.



- Prepare preliminary engineering design drawings.
- Provide quality assurance over the work of pipeline installation and replacement engineering design and construction supervision contractors.
- Develop standards for water and sewer system maps, collect existing drawings from the divisions, and return them to the divisions with requirements for additional data.
- Enter as-built drawings into the GIS base map
- Identify points for installation of flow meters.
- Maintain and expand GIS capacities to capture and make use of data on the hydraulic and structural conditions of the distribution and collection systems through developing overlays on locations of leakage, pipe breaks, water quality problems, pressure problems, water consumption by distribution zone, collection system flows by pump station command area, etc
- Assist the Water and Wastewater Divisions in the planning of systematic network maintenance programs for leak detection, mains flushing, valve exercising, manhole inspection, and sewer cleaning, receive and enter maintenance program implementation data, and report to the division managers and General Manager on maintenance program progress.
- Assist the Customer Service Division to optimize meter reading and billing routes

### 3.4.3 Water Quality Center

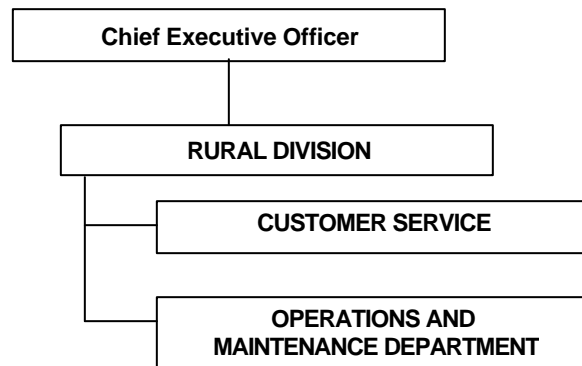
- Assemble and maintain an up-to-date collection of international, national, and local water quality standards applicable to raw water sources, drinking water supply, wastewater treatment and disposal, reuse, and industrial wastewater discharge permitting.



- Define the frequencies for sampling of various water facilities and sources, the required analytical parameters and methods, and the sampling points.
- Prepare plans and budgets for the utility's water quality monitoring programs, including the preparation of TORs for sampling and analysis programs to be contracted out.
- Review and approve all requests for sewer connections by industrial users.
- Review, approve, and monitor implementation of industrial pretreatment compliance plans.
- Report instances of substandard water quality to the CEO, and conduct follow-up investigations as requested.
- Investigate sources of contamination or pollution of local water sources, and recommend remedies to the CEO.
- Prepare regular reports on drinking, effluent, and reuse water quality.
- Periodically review treatment process control data, and recommend improvements in reporting and/or process control.
- Advise the Water Reclamation Department on the zoning and allocation of reuse water supply and effluent disposal.
- Advise the CEO on public health requirements regarding public access to reuse and disposal sites.

#### 3.4.4 Rural Water Division

- Operates rural water stations (pump stations and desalination units)
- Maintains rural distribution systems
- Accounts for, bills, and collects rural water sales
- ? Inspects new water connections



#### Operations and Maintenance Department

- Operate and perform routine maintenance on local public water source and treatment works.
- Repair and maintain water distribution pipelines.
- Maintain local treated water pumping and storage facilities
- Supervise laying and rehabilitation of water mains.
- Assemble as-built drawings and maps of water pipelines, send them to the Projects Center for entry to the GIS, and respond to Projects Center requests for additional mapping detail.
- Approve and maintain drawings of service connections.
- Supervise new connections.
- Install and remove meters.
- Record and report plant and zone flow meter data.
- Conduct periodic night-flow measurements.

### Customer Service Department

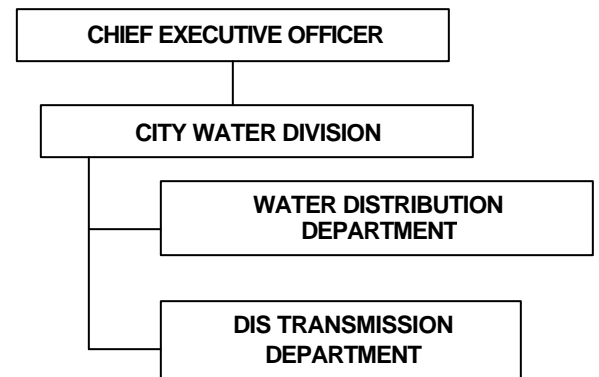
- Receive and understand requests, complaints, and reports of service problems, and forward them to the appropriate department manager.
- Follow up utility response to requests and complaints.
- Receive payments.
- Assist clients to complete applications for new connections.
- Assist customers to prepare requests for installment plans.
- Read customer meters, and report them to the Billing Department in Aqaba
- Deliver bills and payment warnings.
- Report problems of meter accessibility and signs of meter underperformance or sabotage to the Metering Department in Aqaba.
- Report signs of possible illegal connections to the City Water Distribution Department.
- Report signs of leakage.

### 3.4.5 City Water Division

- Controls and maintains the main Disi- Aqaba transmission system
- Maintains the city water distribution system
- Maintains local rural water stations
- Inspects new connections

### Water Transmission (Disi) Department

- Operate and maintain the Supervisory Control and Data Acquisition (SCADA) system and record bulk water supply flows and pressures.
- Develop and implement contingency plans for coping with interruptions in bulk water supply.



### Water Distribution Department

- Plan, budget for, and implement a regular valve exercising program.
- Plan, budget for, and implement a regular mains flushing program.
- Plan, budget for, and implement a systematic leak detection program.
- Repair small leaks and report repairs to the Projects Center.
- Repair pipe breaks and bursts, and report all repair requests and results to the Projects Center.
- Provide as-built drawings of all water mains in accordance with the requirements of the Projects Center.
- Supervise water mains laying and rehabilitation works.

- Develop standards and specifications regarding materials and installation practices for new connections.
- Prepare drawings and bills of quantities for new water connections.
- Install, read, and maintain distribution system flow meters.
- Develop and implement standards and specifications for types and installation of consumption meters.
- Develop and maintain a meter inventory.
- Plan, budget for, and implement a program of regular meter calibration and maintenance.
- Train meter readers in the detection of meter faults.
- Repair meters which can be fixed.
- Plan, budget for, and implement a systematic meter replacement program.

### 3.4.6 Wastewater Division

- Drains and transports wastewater
- Inspects new sewer connections
- Treats collected wastewater
- Distributes or disposes of treated effluent

#### Sewers Department

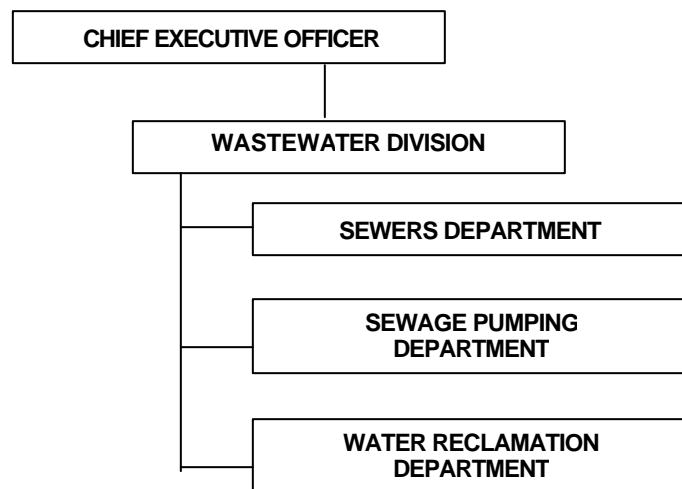
- Provide as-built drawings to the Projects Center, and respond to requests from Projects Center for mapping detail.
- Respond to work orders for deblocking and line repairs
- Operate a regular manhole inspection program.
- Operate a mechanical preventive sewer cleaning program.
- Approve and store layouts for new connections.
- Supervise compliance with standards for new connections.

#### Sewage Pumping Department

- Maintain continuous and efficient sewage pumping operations.
- Record and report sewage flows and power use.

#### Water Reclamation Department

- Operate and maintain wastewater treatment facilities.
- Provide a regular supply of effluent suitable for industrial and specified agricultural uses.
- Assure sanitary land-based disposal of all sewage received at the plant.
- Operate and maintain effluent distribution and disposal systems.



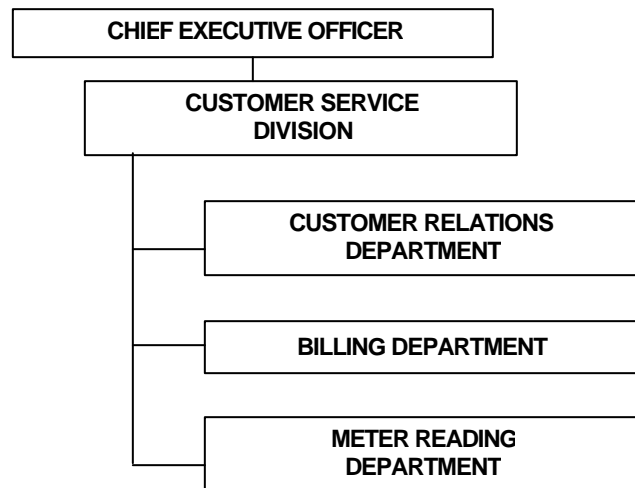
- Operate and maintain sludge dewatering and disposal.
- Respond to emergency service complaints of reuse customers, and report all reuse complaints and requests to the Projects Center.

### 3.4.7 Customer Service Division

- Accounts for water and sewer service sales
- Issues bills and collects payments
- Receives applications for new connections
- Serves as principal point of contact with utility customers

#### Customer Relations Department

- Receive and understand requests and complaints, and forward them to the appropriate utility department.
- Follow up utility response to requests and complaints.
- Receive payments.
- Assist clients to complete applications for new connections.
- Assist customers to prepare requests for installment plans.
- Answer inquiries about rates, works in progress, utility public announcements, and educational materials.
- Participate in administering occasional surveys and communication campaigns.



#### Meter Reading Department

- Deliver bills.
- Receive payments.
- Read customer meters.
- Report problems of meter accessibility and signs of meter underperformance or sabotage to the Metering Department.
- Report signs of leakage, sewer blockage, and possible illegal connections to the Water Distribution Department

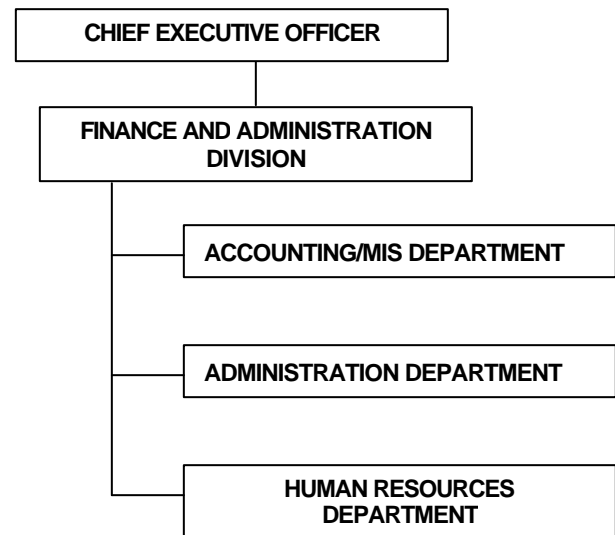
#### Billing Department

- Enter meter readings and generate bills.
- Enter collection data and maintain customer accounts.

- Generate statistical and exception reports on meter condition, consumption, collections, meter reader performance, etc
- Issue meter investigation requests.
- Issue requests for investigation of possible illegal connections.
- Issue payment warnings.
- Maintain billing system interface with bank collections.

### 3.4.8 Finance and Administration Division

- Coordinates budget processes and implements budget controls
- Maintains financial and cost accounts
- Manages purchases and issues payments, including payroll
- Maintains stores, rolling stock, and buildings
- Coordinates planning and implementation of HRD programs



#### Accounting/MIS Department

- Ensure that all Company officers understand the Company's financial policies and procedures.
- Assist line managers in preparing annual budgets.
- Input budget data, edit changes to budget, prepare quarterly budget reports, and prepare monthly expenditure reports for cost center managers.
- Enter commitments for approved purchases, and remove commitments as payments are made.
- Prepare payroll and payroll deductions, issue payroll checks/deposits, and ensure that Social Security payments are made.
- Maintain and update fixed assets register and project accounts.
- Issue approved payments to suppliers.
- Undertake periodic stores audits.
- Receive cash and ledgers from Customer Service Department, and enter cash into general ledger.
- Prepare financial statements

#### Administration Department

- Receive approved purchase orders, manage procurement processes in accordance with the Company's purchasing policies and procedures, and monitor status of purchase orders
- Notify the Accounting/MIS Department of acceptance of goods and services for payment.

- Assist line managers in the preparation of tender documents.
- Ensure that stores are well organized and that parts and materials are properly stored, shelved, and carded.
- Implement inventory management policies and procedures.
- Approve requisition orders, assuring that outflows are charged to the correct cost center.
- Monitor requisition rates for the various types of inventory.
- Identify unused and unusable inventory.
- Assist line managers to determine needs for office supplies and equipment.
- Procure office furnishings and supplies.
- Assure maintenance of Company office premises.
- Supervise photocopying and document preparation.
- Manage telephone switchboard.
- Make arrangements for work-related out-of-town travel and for visits by outside guests.

### **Human Resources Department**

- Monitor and update the Company's staffing plan and position control system.
- Assist managers in assessing their staffing requirements, improving work organization, and periodically reviewing the job descriptions of their subordinates.
- Periodically review labor supply and salary levels in local and national markets, and propose improvements to the Company's position classification and pay scales.
- Assist Company management in the design of incentive structures.
- Train managers in staff performance appraisal, training needs analysis, and mentoring.
- Coordinate preparation of annual training plans.
- Develop and maintain a database on training suppliers, arrange training provision, and assist managers to evaluate training.
- Prepare induction training plans for new employees, and provide induction to Company personnel policies and procedures to new employees.
- Ensure that all managers understand the Company's personnel policies and procedures.
- Receive, investigate, and assist in resolving staff complaints.
- Review all proposed personnel actions (e.g., hiring, promotion, discipline) and maintain personnel files.
- Assist staff as necessary in accessing Company personnel benefits.

## SECTION IV

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### POSITION CLASSIFICATION AND STAFFING REQUIREMENTS

The preceding sections set out organization design strategies for the Company and showed the types and numbers of personnel needed by each organizational unit. The present section examines the staffing requirements more closely. First, the system of position classification used to group job titles into sets of comparable skill and responsibility is described. Second, a preliminary assessment is made of the degree of “fit” between the proposed staff composition and the current staff roster in order to identify areas of staff shortage and surplus.

It should be emphasized that the staffing analysis is preliminary. It is only a starting point for more thorough job grading and evaluation, individual staff appraisal, and individual training needs analyses which will require the participation of WAJ HQ personnel, subject-matter specialists and WAJ Aqaba managers. An action plan for the implementation of these and other personnel-related systems is provided in Section V. of this report.

#### 4.1 Position Classification

A position classification system categorizes jobs or positions according to the technical skill requirements, level of supervisory responsibility, level of responsibility for assets, degree of physical effort and working conditions. Position classification is useful in setting pay scales, assessing staffing needs, and planning for recruitment, training, and succession<sup>4</sup>.

Positions in some job classes, such as the Specialist and Operator, are graded, e.g., Operator I and Operator II. Grades within a class indicate both a salary differential and a career path, e.g., with the proper experience and training an employee at grade II may graduate to the grade I position. A few job classes, notably the Manager and Supervisor, may accept properly qualified and trained entrants from another class, e.g., some Manager jobs could be recruited from the Supervisor or Specialist classes.

The proposed AWC position classification comprises ten job classes. These may be grouped into three “macro-classes”:

- 1) Professionals, including Managers, Specialists, and Supervisor
- 2) Skilled, including Administrative Officers, Craftsmen, Technician, and Operators
- 3) Semi-and Unskilled, including the Clerical, Semi-skilled, and Laborer groups.

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<sup>4</sup> This report’s use of the term “classification” is unrelated to the distinction now made in GOJ civil service terminology between “classified” civil servants (who are entitled to Civil Retirement pensions) and “unclassified” employees (who are entitled to Social Security retirement insurance).



Table 4.1 shows the proposed AWC staff composition by class:

**Table 4.1**  
**AWC Staffing by Position/Class**

<b>Position</b>	<b>No.</b>
Managers	6
Specialists	10
Supervisors	8
Admin Officers	12
Craftsman	32
Operators	30
Technicians	12
Clerical	16
Semi-Skilled	24
Laborers	71
<b>TOTAL</b>	<b>221</b>

Detailed position classification and staffing tables are presented in Annex A. Tables A.1 through A.4 covering Staffing by Job Class, Staffing by Position Title, Positions Listed in Alphabetical Order and Staffing by Organization Unit. Profiles of each of the ten positions are presented below.

**Managers.** The managers' class include the CEO and the five division managers. They are responsible for turning Board policy into concrete plans, programs, and budgets; and for ensuring that the work performed by their subordinates complies with utility policies and procedures. The division managers are responsible for the main operational functions of the utility and command the major portions of the annual operating budget, as well as participating in capital improvement planning and implementation. Managers must be capable of planning, directing, coordinating, and controlling the work of their subordinate departments. Managerial positions require a combination of subject-matter technical knowledge and management skills.

**Specialists.** Specialists provide a high level of knowledge in specialized technical areas. Of the ten specialists, four are located in the two centers, the Projects Center and the Water Quality Center, while another three are located in the Finance and Administration Division. They are typically university graduates and have good computer skills. There are two grades of specialist<sup>5</sup>. The Specialist I class is distinguished by the additional requirement for some degree of supervision over a team; in the case of the Treatment Engineer, quite a large team. (Although the Chemist supervises the Water Quality Center, he/she has been graded Specialist II because the Center staff is small and composed itself of specialists who need relatively minor supervision). The difference in level of responsibility between the two grades should be reflected in the salary structure.

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<sup>5</sup> As used in this classification system, grade I positions rank higher than grade II positions.

**Supervisors.** The supervisory class includes all department heads who are not classified as Specialists. Under the direction of the division manager, supervisors implement their departments' portions of the division's annual work plans and are responsible for the day-to-day management of the various crews, teams, and individuals who comprise their departments. While operating procedures are set by the division manager, supervisors are partly evaluated on the quality of their recommendations as to how procedures can be implemented more efficiently and effectively. Supervisors also advise the division manager on needs for materials, equipment, personnel, and training.

**Administrative Officers.** The administrative officers are a relatively diverse set of positions whose common feature is the ability to understand and properly apply administrative procedures. The most important position in the group is the CEO's Administrative Assistant, but the group also includes the Customer Service Representatives and the (Rural) Customer Service Supervisor, who are responsible for dealing with the public, understanding customer requests, communicating utility procedures and by-laws, and knowing which department to refer customer service requests to. This group also includes the staff responsible for overall administration of the stores, garage, and office facilities. Most of the positions require a university education.

**Craftsmen.** The Craftsman group includes the mechanics, electricians, welders, pipefitters, and several types of works inspectors. The Craftsman II job-holders can perform routine and preventive maintenance and simple repairs on machines and equipment. The Craftsman I group can perform more complex repairs and maintenance, including the fabrication of parts, and/or head crews which carry out relatively sophisticated maintenance operations, such as mechanical sewer cleaning.

**Operators.** Operators run equipment, have a basic understanding of what various controls mean, record operating data, and perform simple maintenance tasks. The Operator I and II groups are distinguished on the basis of the complexity of the equipment they operate: the I group includes wastewater treatment plant process operation and a (rural) desalination operator, the II group includes the rural water and city wastewater pump station operators.

**Technicians.** Technicians are responsible for detailed measurement and control of operational processes or for the operation of specialized equipment and instruments. Seven of the twelve technicians work in one or the other Center (though one of the two lab technicians is physically located in the wastewater treatment plant). A university degree is not a strict requirement for these positions, but the occupants must be able to consult reference materials/operating manuals, understand the significance of operating data, record data properly, and work attentively and precisely.

**Clerical.** Clerical workers perform relatively routine tasks; such as data entry, typing, or basic secretarial functions. Eight of the sixteen clerical positions are data entry clerks in the billing and accounting departments.

**Semi-Skilled.** The 24 semi-skilled personnel are mostly meter readers (11) or workers engaged in maintenance and repair of water and sewer lines (12).

**Laborers.** This group is composed of 11 drivers, 26 guards, 6 office boys, 2 janitors, and 26 general laborers.

#### 4.2. Staff Balances Analysis

The purpose of this subsection is to compare required AWC staffing and actual WAJ Aqaba staffing. The basis for the analysis is a list of personnel and job titles prepared by WAJ Aqaba in December 2002. The TAPS team examined each WAJ Aqaba job title and made a preliminary determination of the equivalent AWC position. Then the available positions were compared to the staffing requirements of the TAPS AWC staffing plan. The results are summarized in Table A.5, Appendix A, in which a *negative* number in the “Difference” column indicates a *shortage* of current staff relative to staffing plan requirements for the position (or job group) and a *positive* number indicates *excess* current staffing of the position or group relative to plan requirements. The limitations of an analysis based mainly on job titles are clear. The job titles of the current staff are sometimes insufficient to enable identification of an equivalent in the staffing plan: this is indicated by a question mark in the “Equivalent Position” column and applies to eight of the current positions, comprehending a total of 26 of the total 257 employees. Second, an equivalence does not assure that the current individuals are fully qualified to perform the equivalent AWC job. A process for proper AWC staff appraisal and training needs analysis is set out in Section V. The present analysis is intended merely to indicate areas of gross staffing imbalance.

**Managers.** TAPS field research and interviews with some of the WAJ Aqaba managers enables us to make a better determination of the equivalences in this job group than most others. If our assessment is accepted, WAJ Aqaba currently possesses the equivalents of the division managers for Rural, City Water, and Customer Service. The missing managerial posts are the Chief Executive Officer and the heads of the Wastewater Division and the Finance and Administration Division.

**Specialists.** The term “specialist” was found in only one of the WAJ Aqaba job titles, the recently appointed GIS Specialist. We have assumed an equivalence between the duties of the current “Information Data Entry Branch Chief” and the proposed AWC Billing Systems Specialist, though it is likely that this individual’s experience will need to be complemented with training. There is insufficient information to determine an equivalent position for the current “Accountant” and three of the four current “Computer Operators”, but the comments by WAJ Aqaba managers suggest that the incumbents of these positions may not have the qualifications for Specialist positions. Hence, the Specialist group, which requires 10 positions, may have only two current incumbents in WAJ Aqaba. The specialist positions which need to be filled are:

- Projects Specialist
- Chemist
- Water Reuse Specialist
- Treatment Engineer

- Purchasing Specialist
- Accounting/MIS Specialist
- Information Systems Specialist
- Human Resources Specialist.

**Supervisors.** This group has eight positions in the staffing plan. Four current WAJ Aqaba employees are considered to fit some of the positions, as shown in Table A.5. Equivalents for three current “Section Heads” could not be determined. The supervisory positions which need to be filled are:

- Customer Relations Supervisor (Rural Division)
- Distribution Supervisor (City Water Division)
- Rural Distribution Supervisor (Rural Division)
- Sewers Department Supervisor (Wastewater Division).

WAJ Aqaba managers may wish to determine whether the three unclassified “section heads” may be suited for these positions.

**Administrative Officers.** The formal equivalences between current and proposed job titles are relatively easy to draw in this group, though WAJ Aqaba managers will have to determine whether the incumbents have the requisite qualifications in relation to the job descriptions of the AWC positions. There is some slight overstaffing relative to the proposed Cashier and Storekeeper requirements.

**Craftsmen.** There is good fit between available and planned staff in the Craftsman group. Approximately two additional mechanics are needed. While Table A.5 indicates excess plumbers/pipefitters, some of this “excess” can be absorbed by the proposed AWC Connection Inspector, Construction Inspector, and Distribution System Foreman positions.

**Operators.** While the current staffing in this group is adequate for WAJ Aqaba’s present needs, the coming of the new wastewater treatment plant will create a severe shortage, of approximately 15 personnel. At least eight of the needed operators should be of the Operator I grade; the current operators are more likely to be in the Operator II grade.

**Technicians.** There is a significant shortfall in this group. While the required Lab Technician, Meter Calibration Technician, and Survey Technician positions appear to be covered, the current staffing is short of an additional GIS technician, plus the following new technician posts:

- SCADA Technicians (2)
- Industrial Waste Technician (1)
- Instrument Technician (1)
- Leak Detection Technician (1)
- Mapping Technician (1)

It is possible that some of three Computer Operators who are listed without positional equivalents in the Specialist class in Table 5.4 can be trained for some of the needed Technician jobs.

**Clerical.** While the increased demand for Data Entry Clerks which will result from the AWC financial management system produces a shortage in this position compared to the current staffing, the Clerical group is overstaffed by 17 persons, with 33 incumbents compared to 16 planned positions, even if it is assumed that some of the current Clericals will be trained in data entry.

**Semi-Skilled and Unskilled.** Although these are two distinct job groups in the proposed position classification, the limitations of the data on the current jobholders compels Table A.5 to treat them as one group. The current number of meter readers is appropriate. The number of guards is 19 short of the planned, but there is much overstaffing in the Driver and Worker positions, more than can be absorbed by the Guard position. The excess in the group as a whole is 38 persons.

The preliminary staff balances analysis presented above confirms the views of WAJ officials and WAJ Aqaba managers that the current WAJ Aqaba organization is both underskilled and overstaffed. The most urgent needs for new staff are in the Manager, Specialist, Operator I, and Technician groups, as detailed in the relevant subsections above and summarized in Table 4.2:

**Table 4.2**  
**Critical Staffing Shortages**

<b>Job Class</b>	<b>Additional Staff Needed</b>
Managers	3
Specialists	4
Operators	15
Technicians	7

There is some, albeit limited scope for meeting some of the needs in the Technician group through training. Regarding the Supervisor and Administrative Officer positions, there is a need for closer appraisal of current WAJ Aqaba staff in the context of formal job descriptions in order to determine whether the apparent shortfalls can be met from within the organization. The Craftsman group is the least problematic job group in terms of its size and composition.

The Clerical, Semi-Skilled and Unskilled groups are all overstaffed (except for the Meter Reader position). Unfortunately, there is only limited scope for training solutions in this area, primarily through training the best of the current semi-skilled jobholders as Operators II, leaving the current Operators II free for on-job training on the new wastewater treatment plant during the one-or two-year period of USAID-funded O&M assistance and so graduating them to Operator I positions. There would still be excess personnel in the Clerical and Unskilled groups.

## SECTION V

### RECOMMENDED PLAN OF ACTION

The proposed human resources action plan involves six major tasks covering organization and staffing needs, preparation of job descriptions, development of a pay plan, recruitment plan and training needs analysis, personnel policy development and design of a personnel management system. TAPS recommends that a committee be established to oversee and participate in plan implementation until an official AWC executive management team is designated. The committee would include WAJ HQ personnel specialized in human resource affairs and O&M management and selected WAJ Aqaba managers. The committee will review TAPS products that may be requested by WAJ or USAID, and the committee will play the lead role in implementation of several tasks, such as the job grading and appraisal/recruitment tasks. In this sense, the committee is a working group as well as a steering body, and the members may have to allocate a significant part of their time to the work, perhaps the equivalent of 30 days when review work is included. A summary of the human resources action plan is shown in Table 6.1 and a brief description of each task is provided below.

#### 5.1 Preparation of AWC Organization and Staffing Plan

The present report should be reviewed by WAJ HQ personnel and subject-matter specialists and by WAJ Aqaba managers. Refinement of staffing requirements may be expected based on outstanding information requests and WAJ review. The final organization and staffing plan should be approved by the end of March 2003.

#### 5.2 Preparation of Job Descriptions

There are 71 discrete job titles in the staffing plan. The preparation of high-quality job descriptions is the foundation for the subsequent job grading, pay setting, and personnel appraisal and recruitment tasks, and is labor intensive. In the Action Plan, completion is scheduled by 31 March 2003.

Table 5.1 – Summary Human Resources Action Plan	
Task	Period
1. Determine AWC organization structure and staffing needs	Feb-Mar 2003
2. Develop job descriptions	Mar 2003
3. Grade jobs and develop pay structure	Apr 2003
4. Appraise current staff, recruit new staff, and prepare training needs analyses	May-Sep 2003
5. Develop personnel policies	May-Jul 2003
6. Establish a personnel management system	Oct-Dec 2003

#### 5.3 Job Grading and Evaluation

Job grading is a process of comparing and ranking jobs in terms of knowledge/skill requirements, responsibility, physical effort, and work conditions. Job evaluation is a process of defining the wage rates for each job. There are formal techniques for these processes, but the processes need to be implemented by managers and industry specialists such as will be found at WAJ and WAJ Aqaba.

It is recommended that TAPS consultants be assigned to provide formal training in the job grading and evaluation methods (2 days for WAJ HQ personnel and 2 days for WAJ Aqaba managers; the training events would be combined if the appropriate travel arrangements can be

made); then the consultants would moderate an estimated three job grading sessions of approximately two days each during which the Committee grades each job, followed by a final “calibration” session at which the grades assigned to the various jobs are coordinated within a Company-wide pay scale. The output is the draft AWC position classification and pay scale. Completion is scheduled for 30 April 2003 in the Action Plan.

## 5.4 Recruitment

Recruitment is the process of assigning persons to positions. In the case of the WAJ Aqaba-AWC transition, there are two types of recruitment process: one involving the “screening” of current WAJ Aqaba personnel to determine their suitability for AWC positions, the second involving the recruitment---from within WAJ, GOJ, or the private sector---of persons qualified for positions which can’t be filled from within the current WAJ Aqaba labor pool.

The first type of recruitment (recruitment from inside) involves a one-by-one appraisal of each current WAJ Aqaba employee to the AWC position (if any) he/she qualifies for, followed by a ranking of the candidates for each position. Once the best candidates are identified, their training needs are assessed in relation to job requirements. The second type of recruitment (recruitment from outside) involves the preparation of advertisements, the identification of promising sources of recruits, and the selection of the means of advertisement, followed by review of resumes, preparation of short-lists, and interviewing and testing as deemed necessary. The draft TAPS human resources action plan proposes May-Jun 2003 for the internal recruitment process and July-Sep 2003 for the external recruitment process.

The level of TAPS involvement in the recruitment process should be confirmed in discussions with MWI and WAJ. At a minimum, TAPS could provide templates and formal training in personnel performance appraisal and training needs analysis to WAJ specialists and WAJ Aqaba managers. A higher level of technical assistance would prospectively include TAPS “advice and assistance” in executing these tasks. With respect to external recruitment, the TAPS project could prospectively provide training in job interviewing, or provide training followed by technical assistance in the search, interviewing, and/or testing processes for all or some of the managerial and specialist positions. It may be noted that the TAPS Prefeasibility Report recommended an international search for the AWC CEO, and at the 27 January 2003 Coordinating Committee meeting, H. E. the Minister of Water and Irrigation expressed willingness to search internationally if an appropriate Jordanian candidate for the CEO position cannot be found. The Chemonics home office could provide beneficial assistance to WAJ in an international search.

Even if it is assumed that MWI/WAJ wants TAPS assistance in recruitment, the case-by-case screening of WAJ Aqaba staff should be largely the responsibility of the WAJ Aqaba managers, at least with respect to the skilled, semi-skilled, and unskilled positions; the WAJ Aqaba managers will have been enabled to screen the staff by virtue of their participation in the job grading exercise and the various training events. It is recommended that WAJ HQ and TAPS subject-matter experts conduct the appraisal of WAJ Aqaba managers and specialists.

For the external recruitment, it is recommended that TAPS assist WAJ officials in drafting the advertisements, participate in the interviews, and develop tests if the latter are deemed necessary.

WAJ (or the AWC board) can manage the search for local candidates. TAPS may assist in international searches. It may be noted that access to WAJ personnel records on WAJ Aqaba employees would enhance the effectiveness of TAPS advisors in staff appraisals.

## **5.5 Personnel Policies**

Personnel policies set out the rights and responsibilities of management and employees with respect to a range of topics, such as conditions of employment, benefits, discipline, etc. The specific policy issues and positions are often closely bound up with the country's labor law and the precedents in similar organizations. The board of directors should ratify the policies.

Although the policies bear little technical relation to the previous tasks since job candidates will expect to know the Company's policies before signing employment contracts. Hence, Board appointment stands in the critical path of the recruitment process. Technical assistance in policy development could include all or some of the following activities:

- Preparation of an annotated table of contents for policy manual, to identify the topics which could/should be addressed
- Assessment of policies developed by other Jordanian utility companies in relation to US best practice
- Preparation of policy options and policy options review workshop
- Preparation of draft policy manual, with (optionally) presentation to AWC board.

## **5.6 Personnel Management System**

AWC should have an operational personnel management system from the day it assumes control of Aqaba utility operations. At a minimum, the system consists of complete personnel files, a computer record for each employee, and a set of procedures for processing the principal personnel action such as promotions, training, citations, etc. (Note that the personnel system is related to but distinct from the payroll system, which is part of the accounting system.) It is expected that the USAID/MWI FAS Project will develop the basic personnel system software; TAPS should review the draft structure and procedures of the FAS design for conformity to AWC's position classification and personnel policies and send its comments to FAS and the USAID TAPS CTO. Once the system screens are approved, TAPS could prospectively assist WAJ/AWC in developing a work plan for data entry. In the Action Plan, this task is scheduled for completion by 31 December 2003.



## **ANNEX A**

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### **Detailed Position Classification and Staffing Tables**

Table A1.	Staffing by Job Class	28
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Table A3.	Positions Listed in Alphabetical Order	33
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**Table A1.  
Staffing by Job/Class**

<b>Job/Class</b>	<b>Position/Title</b>	<b>No.</b>	<b>Division – Department</b>
<b>MANAGERS</b>			
CEO	Chief Executive Officer	1	CEO's Office
Manager	Customer Service Division Manager	1	Customer Service Division
Manager	Finance & Admin Division Manager	1	Fin & Admin Division
Manager	Rural Division Manager	1	Rural Division
Manager	Wastewater Division Manager	1	Wastewater Division
Manager	City Water Supply Division Manager	1	Water Division
<b>Subtotal, Managers</b>		<b>6</b>	
<b>SPECIALISTS</b>			
Specialist I	Accounting/MIS Specialist	1	Fin & Admin – Accounting/MIS
Specialist I	Projects Specialist	1	Projects
Specialist I	Treatment Engineer	1	Wastewater – Reclamation
Specialist II	Information Systems Specialist	1	CEO's Office
Specialist II	Billing System Specialist	1	Customer Service – Billing
Specialist II	Purchasing Specialist	1	Fin & Admin – Admin
Specialist II	Human Resources Specialist	1	Fin & Admin – Human Resources
Specialist II	GIS Specialist	1	Projects
Specialist II	Chemist	1	Quality
Specialist II	Water Reuse Specialist	1	Quality
<b>Subtotal, Specialists</b>		<b>10</b>	
<b>SUPERVISORS</b>			
Supervisor	Customer Relations Supervisor	1	Customer Service – Customer Relations
Supervisor	Meter Reading Supervisor	1	Customer Service – Meter Reading
Supervisor	Administration Department Supervisor	1	Fin & Admin – Admin
Supervisor	Rural Distribution Supervisor	1	Rural – O&M
Supervisor	Sewage Pumping Supervisor	1	Wastewater – Pumping
Supervisor	Sewers Department Supervisor	1	Wastewater – Sewers
Supervisor	Distribution Supervisor	1	Water – Distribution
Supervisor	Transmission Supervisor	1	Water – Transmission
<b>Subtotal, Supervisors</b>		<b>8</b>	
<b>ADMINISTRATIVE OFFICERS</b>			
Admin Officer	Administrative Assistant	1	CEO's Office
Admin Officer	Customer Service Representative	4	Customer Service – Customer Relations
Admin Officer	Cashier	1	Fin & Admin – Accounting/MIS
Admin Officer	Fleet Supervisor	1	Fin & Admin – Admin
Admin Officer	Office Administrator	1	Fin & Admin – Admin
Admin Officer	Stores Supervisor	1	Fin & Admin – Admin
Admin Officer	Customer Service Supervisor	1	Rural – Customer Service
Admin Officer	Storekeeper	1	Wastewater – Reclamation
Admin Officer	Storekeeper	1	Water – Distribution
<b>Subtotal, Admin Officers</b>		<b>12</b>	

**Table A1.  
Staffing by Job/Class**

<b>Job/Class</b>	<b>Position/Title</b>	<b>No.</b>	<b>Division – Department</b>
<b>CRAFTSMEN</b>			
Craftsman I	Construction Inspector	2	Projects
Craftsman I	Connection Inspector	2	Rural – O&M
Craftsman I	Maintenance Foreman	1	Wastewater – Pumping
Craftsman I	Welder	2	Wastewater – Pumping
Craftsman I	Connection Inspector	2	Wastewater – Sewers
Craftsman I	Maintenance Foreman	2	Wastewater – Sewers
Craftsman I	Pipefitter	3	Water – Distribution
Craftsman I	Welder	2	Water – Distribution
Craftsman I	Maintenance Foreman	1	Wastewater – Reclamation
Craftsman I	Welder	1	Water – Transmission
Craftsman II	Electrician	1	Wastewater – Pumping
Craftsman II	Maintenance Mechanic	1	Wastewater – Pumping
Craftsman II	Electrician	1	Wastewater – Reclamation
Craftsman II	Maintenance Mechanic	2	Wastewater – Reclamation
Craftsman II	Distribution System Foreman	3	Water – Distribution
Craftsman II	Maintenance Mechanic	1	Water – Distribution
Craftsman II	Meter Installer	2	Water – Distribution
Craftsman II	Electrician	1	Water – Transmission
Craftsman II	Maintenance Mechanic	2	Water – Transmission
<b>Subtotal, Craftsmen</b>		<b>32</b>	
<b>OPERATORS</b>			
Operator I	Desalination Operator	1	Rural – O&M
Operator I	WWTP Operator	5	Wastewater – Reclamation
Operator I	Equipment Operator	2	Wastewater – Sewers
Operator II	Switchboard Operator	1	Fin & Admin – Admin
Operator II	Pump Station Operator	6	Rural – O&M
Operator II	Pump Station Operator	5	Wastewater – Pumping
Operator II	WWTP Operator Assistant	10	Wastewater – Reclamation
<b>Subtotal, Operators</b>		<b>30</b>	
<b>TECHNICIANS</b>			
Technician I	Industrial Waste Technician	1	Quality
Technician I	Laboratory Technician	2	Quality
Technician I	SCADA Technician	2	Water – Transmission
Technician I	GIS Technician	2	Projects
Technician II	Mapping Technician	1	Projects
Technician II	Survey Technician	1	Projects
Technician II	Instrument Technician	1	Wastewater – Reclamation
Technician II	Leak Detection Technician	1	Water – Distribution
Technician II	Meter Calibration Technician	1	Water – Distribution
<b>Subtotal, Technicians</b>		<b>12</b>	

**Table A1.  
Staffing by Job/Class**

<b>Job/Class</b>	<b>Position/Title</b>	<b>No.</b>	<b>Division – Department</b>
<b>CLERICAL</b>			
Clerical I	Billing & Collection Clerk	1	Rural – Customer Service
Clerical I	Secretary	1	Customer Service
Clerical I	Data Entry Clerk	5	Customer Service – Billing
Clerical I	Secretary	1	Fin & Admin
Clerical I	Data Entry Clerk	3	Fin & Admin – Accounting/MIS
Clerical I	Secretary	1	Projects
Clerical I	Secretary	1	Rural
Clerical II	Clerk	1	Fin & Admin – Admin
Clerical II	Secretary	1	Fin & Admin – Admin
Clerical II	Secretary	1	Wastewater – Reclamation
<b>Subtotal, Clerical</b>		<b>16</b>	
<b>SEMI-SKILLED</b>			
Semi-Skilled	Meter Reader	8	Customer Service – Meter Reading
Semi-Skilled	Laboratory Assistant	1	Quality
Semi-Skilled	Meter Reader	3	Rural – Customer Service
Semi-Skilled	Distribution Maintenance Worker	4	Rural – O&M
Semi-Skilled	Sewer Maintenance Worker	8	Wastewater – Sewers
<b>Subtotal, Semi-Skilled</b>		<b>24</b>	
<b>LABORERS</b>			
Laborer	Driver	1	CEO's Office
Laborer	Driver	1	Fin & Admin
Laborer	Janitors	2	Fin & Admin – Admin
Laborer	Office Boy	6	Fin & Admin – Admin
Laborer	Driver	1	Quality
Laborer	Driver	2	Rural – O&M
Laborer	Guard	10	Wastewater – Pumping
Laborer	General Laborer	5	Wastewater – Pumping
Laborer	Guard	5	Wastewater – Reclamation
Laborer	General Laborer	4	Wastewater – Reclamation
Laborer	Driver	3	Wastewater – Sewers
Laborer	Guard	5	Wastewater – Sewers
Laborer	Driver	3	Water – Distribution
Laborer	General Laborer	12	Water – Distribution
Laborer	General Laborer	5	Water – Transmission
Laborer	Guard	6	Water – Transmission
<b>Subtotal, Laborers</b>		<b>71</b>	
<b>TOTAL</b>		<b>221</b>	

**Table A2.  
Staffing by Position/Title**

<b>Position</b>	<b>Job Group</b>	<b>No</b>
Chief Executive Officer	CEO	1
City Water Supply Division Manager	Manager	1
Customer Service Division Manager	Manager	1
Finance & Admin Division Manager	Manager	1
Rural Division Manager	Manager	1
Wastewater Division Manager	Manager	1
Accounting/MIS Specialist	Specialist I	1
Projects Specialist	Specialist I	1
Treatment Engineer	Specialist I	1
Billing System Specialist	Specialist II	1
Chemist	Specialist II	1
GIS Specialist	Specialist II	1
Human Resources Specialist	Specialist II	1
Information Systems Specialist	Specialist II	1
Purchasing Specialist	Specialist II	1
Water Reuse Specialist	Specialist II	1
Administration Department Supervisor	Supervisor	1
Customer Relations Supervisor	Supervisor	1
Distribution Supervisor	Supervisor	1
Meter Reading Supervisor	Supervisor	1
Rural Distribution Supervisor	Supervisor	1
Sewage Pumping Supervisor	Supervisor	1
Sewers Department Supervisor	Supervisor	1
Transmission Supervisor	Supervisor	1
Customer Service Representative	Admin Officer	4
Storekeeper	Admin Officer	2
Administrative Assistant	Admin Officer	1
Cashier	Admin Officer	1
Customer Service Supervisor	Admin Officer	1
Fleet Supervisor	Admin Officer	1
Office Administrator	Admin Officer	1
Stores Supervisor	Admin Officer	1
Welder	Craftsman I	5
Connection Inspector	Craftsman I	4
Maintenance Foreman	Craftsman I	4
Pipefitter	Craftsman I	3
Construction Inspector	Craftsman I	2

**Table A2.  
Staffing by Position/Title**

<b>Position</b>	<b>Job Group</b>	<b>No</b>
Maintenance Mechanic	Craftsman II	6
Distribution System Foreman	Craftsman II	3
Electrician	Craftsman II	3
Meter Installer	Craftsman II	2
WWTP Operator	Operator I	5
Equipment Operator	Operator I	2
Desalination Operator	Operator I	1
Pump Station Operator	Operator II	11
WWTP Operator Assistant	Operator II	10
Switchboard Operator	Operator II	1
Laboratory Technician	Technician I	2
SCADA Technician	Technician I	2
Industrial Waste Technician	Technician I	1
GIS Technician	Technician I	2
Instrument Technician	Technician II	1
Leak Detection Technician	Technician II	1
Mapping Technician	Technician II	1
Meter Calibration Technician	Technician II	1
Survey Technician	Technician II	1
Data Entry Clerk	Clerical I	8
Secretary	Clerical I	6
Billing & Collection Clerk	Clerical I	1
Clerk	Clerical II	1
Meter Reader	Semi-Skilled	11
Sewer Maintenance Worker	Semi-Skilled	8
Distribution Maintenance Worker	Semi-Skilled	4
Laboratory Assistant	Semi-Skilled	1
General Laborer	Laborer	26
Guard	Laborer	26
Driver	Laborer	11
Office Boy	Laborer	6
Janitors	Laborer	2
<b>TOTAL</b>		<b>221</b>

**Table A3.**  
**Positions Listed in Alphabetical Order**

<b>Position</b>	<b>Job Group</b>	<b>No.</b>
Accounting/MIS Specialist	Specialist I	1
Administration Department Supervisor	Supervisor	1
Administrative Assistant	Admin Officer	1
Billing & Collection Clerk	Clerical I	1
Billing System Specialist	Specialist II	1
Cashier	Admin Officer	1
Chemist	Specialist II	1
Chief Executive Officer	CEO	1
City Water Supply Division Manager	Manager	1
Clerk	Clerical II	1
Connection Inspector	Craftsman I	4
Construction Inspector	Craftsman I	2
Customer Relations Supervisor	Supervisor	1
Customer Service Division Manager	Manager	1
Customer Service Representative	Admin Officer	4
Customer Service Supervisor	Admin Officer	1
Data Entry Clerk	Clerical I	8
Desalination Operator	Operator I	1
Distribution Maintenance Worker	Semi-Skilled	4
Distribution Supervisor	Supervisor	1
Distribution System Foreman	Craftsman II	3
Driver	Laborer	11
Electrician	Craftsman II	3
Equipment Operator	Operator I	2
Finance & Admin Division Manager	Manager	1
Fleet Supervisor	Admin Officer	1
General Laborer	Laborer	26
GIS Specialist	Specialist II	1
GIS Technician	Technician I	2
Guard	Laborer	26
Human Resources Specialist	Specialist II	1
Industrial Waste Technician	Technician I	1
Information Systems Specialist	Specialist II	1
Instrument Technician	Technician II	1

**Table A3.**  
**Positions Listed in Alphabetical Order**

<b>Position</b>	<b>Job Group</b>	<b>No.</b>
Janitors	Laborer	2
Laboratory Assistant	Semi-Skilled	1
Laboratory Technician	Technician I	2
Leak Detection Technician	Technician II	1
Maintenance Foreman	Craftsman I	4
Maintenance Mechanic	Craftsman II	6
Mapping Technician	Technician II	1
Meter Calibration Technician	Technician II	1
Meter Installer	Craftsman II	2
Meter Reader	Semi-Skilled	11
Meter Reading Supervisor	Supervisor	1
Office Administrator	Admin Officer	1
Office Boy	Laborer	6
Pipefitter	Craftsman I	3
Projects Specialist	Specialist I	1
Pump Station Operator	Operator II	11
Purchasing Specialist	Specialist II	1
Rural Distribution Supervisor	Supervisor	1
Rural Division Manager	Manager	1
SCADA Technician	Technician I	2
Secretary	Clerical I	6
Sewage Pumping Supervisor	Supervisor	1
Sewer Maintenance Worker	Semi-Skilled	8
Sewers Department Supervisor	Supervisor	1
Storekeeper	Admin Officer	2
Stores Supervisor	Admin Officer	1
Survey Technician	Technician II	1
Switchboard Operator	Operator II	1
Transmission Supervisor	Supervisor	1
Treatment Engineer	Specialist I	1
Wastewater Division Manager	Manager	1
Water Reuse Specialist	Specialist II	1
Welder	Craftsman I	5
WWTP Operator	Operator I	5
WWTP Operator Assistant	Operator II	10



**Table A4.  
Staffing by Organization Unit**

Unit	Positions	No.
<b>CEO's OFFICE</b>		
CEO's Office	Chief Executive Officer	1
CEO's Office	Information Systems Specialist	1
CEO's Office	Administrative Assistant	1
CEO's Office	Driver	1
<b>Subtotal, CEO's Office</b>		<b>4</b>
<b>PROJECTS CENTER</b>		
Projects	Projects Specialist	1
Projects	GIS Specialist	1
Projects	Construction Inspector	2
Projects	GIS Technician	2
Projects	Mapping Technician	1
Projects	Survey Technician	1
Projects	Secretary	1
<b>Subtotal, Projects</b>		<b>9</b>
<b>WATER QUALITY CENTER</b>		
Water Quality	Chemist	1
Water Quality	Water Reuse Specialist	1
Water Quality	Industrial Waste Technician	1
Water Quality	Laboratory Technician	2
Water Quality	Driver	1
Water Quality	Laboratory Assistant	1
<b>Subtotal, Water Quality</b>		<b>7</b>
<b>RURAL DIVISION</b>		
Rural	Rural Division Manager	1
Rural	Secretary	1
Rural – Customer Service	Customer Service Supervisor	1
Rural – Customer Service	Billing & Collection Clerk	1
Rural – Customer Service	Meter Reader	3
Rural – O&M	Rural Distribution Supervisor	1
Rural – O&M	Connection Inspector	2
Rural – O&M	Desalination Operator	1
Rural – O&M	Pump Station Operator	6
Rural – O&M	Driver	2
Rural – O&M	Distribution Maintenance Worker	4
<b>Subtotal, Rural Division</b>		<b>23</b>

**Table A4.  
Staffing by Organization Unit**

<b>Unit</b>	<b>Positions</b>	<b>No.</b>
<b>CITY WATER DIVISION</b>		
Water	City Water Division Manager	1
Water – Distribution	Distribution Supervisor	1
Water – Distribution	Storekeeper	1
Water – Distribution	Pipefitter	3
Water – Distribution	Welder	2
Water – Distribution	Distribution System Foreman	3
Water – Distribution	Maintenance Mechanic	1
Water – Distribution	Meter Installer	2
Water – Distribution	Leak Detection Technician	1
Water – Distribution	Meter Calibration Technician	1
Water – Distribution	Driver	3
Water – Distribution	General Laborer	12
Water – Transmission	Transmission Supervisor	1
Water – Transmission	Welder	1
Water – Transmission	Electrician	1
Water – Transmission	Maintenance Mechanic	2
Water – Transmission	SCADA Technician	2
Water – Transmission	General Laborer	5
Water – Transmission	Guard	6
<b>Subtotal, City Water Division</b>		<b>49</b>
<b>WASTEWATER DIVISION</b>		
Wastewater	Wastewater Division Manager	1
Wastewater – Pumping	Sewage Pumping Supervisor	1
Wastewater – Pumping	Maintenance Foreman	1
Wastewater – Pumping	Welder	2
Wastewater – Pumping	Electrician	1
Wastewater – Pumping	Maintenance Mechanic	1
Wastewater – Pumping	Pump Station Operator	5
Wastewater – Pumping	Guard	10
Wastewater – Pumping	General Laborer	5
Wastewater – Reclamation	Treatment Engineer	1
Wastewater – Reclamation	Storekeeper	1
Wastewater – Reclamation	Maintenance Foreman	1
Wastewater – Reclamation	Electrician	1
Wastewater – Reclamation	Maintenance Mechanic	2
Wastewater – Reclamation	WWTP Operator	5
Wastewater – Reclamation	WWTP Operator Assistant	10
Wastewater – Reclamation	Instrument Technician	1
Wastewater – Reclamation	Secretary	1

**Table A4.  
Staffing by Organization Unit**

<b>Unit</b>	<b>Positions</b>	<b>No.</b>
Wastewater – Reclamation	Guard	5
Wastewater – Reclamation	General Laborer	4
Wastewater – Sewers	Sewers Department Supervisor	1
Wastewater – Sewers	Connection Inspector	2
Wastewater – Sewers	Maintenance Foreman	2
Wastewater – Sewers	Equipment Operator	2
Wastewater – Sewers	Driver	3
Wastewater – Sewers	Guard	5
Wastewater – Sewers	Sewer Maintenance Worker	8
<b>Subtotal, Wastewater Division</b>		<b>82</b>
<b>CUSTOMER SERVICE DIVISION</b>		
Customer Service	Customer Service Division Manager	1
Customer Service	Secretary	1
Customer Service – Billing	Billing System Specialist	1
Customer Service – Billing	Data Entry Clerk	5
Customer Service – Customer Relations	Customer Relations Supervisor	1
Customer Service – Customer Relations	Customer Service Representative	4
Customer Service – Meter Reading	Meter Reading Supervisor	1
Customer Service – Meter Reading	Meter Reader	8
<b>Subtotal, Customer Service Division</b>		<b>22</b>
<b>FINANCE &amp; ADMINISTRATION DIVISION</b>		
Fin & Admin	Finance & Admin Division Manager	1
Fin & Admin	Secretary	1
Fin & Admin	Driver	1
Fin & Admin – Accounting/MIS	Accounting/MIS Specialist	1
Fin & Admin – Accounting/MIS	Cashier	1
Fin & Admin – Accounting/MIS	Data Entry Clerk	3
Fin & Admin – Admin	Purchasing Specialist	1
Fin & Admin – Admin	Administration Department Supervisor	1
Fin & Admin – Admin	Fleet Supervisor	1
Fin & Admin – Admin	Office Administrator	1
Fin & Admin – Admin	Stores Supervisor	1
Fin & Admin – Admin	Switchboard Operator	1
Fin & Admin – Admin	Clerk	1

<b>Table A4. Staffing by Organization Unit</b>		
<b>Unit</b>	<b>Positions</b>	<b>No.</b>
Fin & Admin – Admin	Secretary	1
Fin & Admin – Admin	Janitors	2
Fin & Admin – Admin	Office Boy	6
Fin & Admin – Human Resources	Human Resources Specialist	1
<b>Subtotal, Finance &amp; Administration Division</b>		<b>25</b>
<b>TOTAL</b>		<b>221</b>

**Table A5.  
Current Staff Balances**

Current Position	Equivalent Position	Job Group Balances			Position Balances		
		No. Available	No. Planned	Difference	No. Available	No. Planned	Difference
Positions of Indeterminate Class		17					
Objection Committee Member	?				1		1
Branch Chief	?				5		5
Supervisor--Controller	?				11		11
MANAGERS		3	6	-3			
Office Manager (Quweira District Mgr)	Rural Division Manager				1	1	0
Assistant Secretary General	City Water Supply Division Manager				1	1	0
Subscribers Director	Customer Service Division Manager				1	1	0
SPECIALISTS		6	10	-4			
Information Entry Branch Chief	Billing System Specialist				1	1	0
GIS Specialist	GIS Specialist				1	1	0
Accountant	?				1		1
Computer Operator	?				3		3
SUPERVISORS		7	8	-1			
Admin & Financial Manager	Administration Dept Supervisor				1	1	0
Operation Engineer (Water O&M Mgr)	Distribution Supervisor				1	1	0
Engineer	Transmission Supervisor				1	1	0
Section Head (WW O&M Mgr)	Sewage Pumping Supervisor				1	1	0
Head of Section	?				3		3
ADMIN OFFICERS		8	12	-4			
Head of Warehouse Section	Stores Supervisor				1	1	0
Head of Administrative Section	Office Administrator				1	1	0
Treasurer	Cashier				3	1	2
Storekeeper	Storekeeper				3	2	1
CRAFTSMEN		30	32	-2			
Shelter Supervisor	?				1		1
Welder	Welder				5	5	0
Plumber	Pipefitter				16	3	13

**Table A5.  
Current Staff Balances**

Current Position	Equivalent Position	Job Group Balances			Position Balances		
		No. Available	No. Planned	Difference	No. Available	No. Planned	Difference
Meter Technician	Meter Installer				1	1	0
Electrician	Electrician				3	3	0
Mechanic	Maintenance Mechanic				4	6	-2
<b>OPERATORS</b>		15	30	-15			
Telephone Operator	Switchboard Operator				1	1	0
Operator	Operator II				14	21	-7
<b>TECHNICIANS</b>		5	12	-7			
Computer Operator (GIS)	GIS Technician				1	2	-1
Laboratory Technician	Laboratory Technician				2	2	0
Meter Technician	Meter Calibration Technician				1	1	0
Surveyor	Survey Technician				1	1	0
<b>CLERICAL</b>		33	16	17			
Admin Clerk	Clerk				1	1	0
Secretary	Secretary				1	6	-5
Typist	Secretary				2		2
Data Entry Clerk	Data Entry Clerk				3	8	-5
Clerk	Billing & Collection Clerk				26	1	25
<b>SEMI- &amp; UNSKILLED</b>		133	95	38			
Guard	Guard				7	26	-19
Driver	Driver				33	11	22
Worker	General Laborers, Maintenance Workers				81	38	43
Painter	?				1		1
Meter Reader	Meter Reader				11	11	0
<b>TOTALS</b>		<b>257</b>	<b>221</b>		<b>257</b>	<b>162</b>	